



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,546	01/24/2002	Sankar Basu	YOR920020018	8796
48813 7590 01/02/2008 LAW OFFICE OF IDO TUCHMAN (YOR) 82-70 BEVERLY ROAD KEW GARDENS, NY 11415			EXAMINER DEBROW, JAMES J	
			ART UNIT 2176	PAPER NUMBER
			NOTIFICATION DATE 01/02/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ITUCHMAN@TUCHMANLAW.COM

# Office Action Summary

Application No.

10/056,546

Applicant(s)

BASU ET AL.

Examiner

James J. Debrow

Art Unit

2176

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 5-17 and 20-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-17 and 20-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This action is responsive to communications: Amendment filed 02 Oct. 2007.
2. Claims 1, 2, 5-17 and 20-28 are pending in this case. Claims 1, 16 and 22 are independent claims.

### ***Applicant's Response***

3. In Applicant's response dated 02 Oct. 2007, Applicant amended claims 14 and 15; canceled claims 3, 4, 18 and 19; argued against all objections and rejection previously set forth in previous Office Action.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 6, 9, 10, 12, 16, 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stubler et al. (Patent No.: US 6,804,684, B2; Filed May 7, 2001) (hereinafter "Stubler") in view of LeBrun et al. (Patent No.: 6,043,819; Filed Jul. 01, 1997) (hereinafter "LeBrun").**

**In regards to independent claims 1, 16 and 22, Stubler discloses *method for generating persistent annotations of multimedia content, comprising one or more repetitions of the following steps:***

*actively selecting examples of multimedia content to be annotated by a user* (fig. 2, fig. 6-7, col. 3 line 46 – col. 4 line 12, col. 8 lines 18-23, and col. 9 line 65 – col. 10 line 18; col. 11, lines 3-35; Stubler discloses unlabeled image regions being presented to the user so that the user can apply a caption or label to all of the regions simultaneously. Stubler also disclose automatically generating one or more captions or labels for the acquired image automatically without any user intervention.).

*accepting input annotations from said user for said selected examples* (fig. 2, col. 3 line 46 – col. 4 line 12, and col. 8 lines 18-55; Stubler discloses unlabeled image regions being presented to the user so that the user can apply a caption or label to all of the regions simultaneously.).

*propagating said input annotations to other instances of multimedia content* (fig. 2; col. 3 line 46 – col. 4 line 12; col. 8 lines 18-55; col. 2 line 59 – col. 3 line 10; Stubler discloses unlabeled image regions being presented to the user so that the user can apply a caption or label to all of the regions simultaneously.).

*storing said input annotations and said propagated annotations* (col. 8 lines 18-55).

Stubler does not expressly disclose *actively selecting examples of multimedia content to be annotated by a user, wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected.*

However LeBrun teaches *actively selecting examples of multimedia content to be annotated by a user, wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected* (col. 3, lines 49-51; col. 10, lines 4-8; col. 18, lines 16-20; col. 21, lines 20-24; LeBrun teaches a database of graphic document images which are automatically identified (*annotated*) by an image character reader. Images not automatically identified (*annotated*) by the image character reader are queued for manual identification/classification by human operators looking sequentially at a screen or queue of images and keying in the identification.).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler with LeBrun for the benefit of speeding up the process of document (*multimedia annotations*) processing so that a higher volume of transactions can be processed, and reduce the number of errors which are considered to be inherent in a document processing (*multimedia annotations*) operation (col. 3, lines 14-23).

**In regards to dependent claims 6 and 21,** Stubler discloses *wherein the multimedia content comprises one or more types selected from the group consisting of: images, audio, video, graphics, text, multimedia, Web pages, time series data, surveillance data, sensor data, relational data, and XML data* (col. 3 line 46 – col. 4 line 12; Stubler discloses images type multimedia.).

**In regards to dependent claim 9,** Stubler discloses *the method of claim 1, wherein the process of creating input annotations by the user involves multimodal interaction with the user using graphical, textual, and/or speech interface* (col. 9, line 65-col. 10, line 18; Stubler disclose an interactive user verification stage in which the user may select and/or edit captions and label.).

**In regards to dependent claim 10,** Stubler discloses *the method of claim 1, wherein the input annotations are created by means of steps selected from the group consisting of: creating new annotations, deleting existing annotations, rejecting proposed annotations, and modifying annotations* (col. 9, line 65-col. 10, line 18; Stubler disclose an interactive user verification stage in which the user may select and/or edit captions and label.).

**In regards to dependent claim 12,** Stubler discloses *the method of claim 9, wherein the multimodal interaction involves speech recognition, gaze detection, finger pointing, expression detection, and/or effective computing methods for sensing a user's state* (col. 5, lines 59-63; col. 6, line 55-62; col. 9 line 49 – col. 10 line 18).

**Note**

6. It is noted that any citations to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the reference should not be considered to

be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. See MPEP 2123.

**7. Claims 2, 5, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stubler in view of LeBrun further in view of Lennon et al. (Patent No.: 6,718,063 B1; Filed Dec. 10, 1999) (hereinafter "Lennon").**

In regards to dependent claims 2 and 17, Stubler discloses *wherein the step of actively selecting is performed using a selection technique selected from deterministic* (col. 4 line 64 – col. 5 line 19).

Stubler in view of LeBrun does not expressly disclose *actively selecting is performed using a selection technique of probabilistic*.

However Lennon teaches *actively selecting is performed using a selection technique of probabilistic* (col. 3, lines 19-35; Lennon teaches using a probabilistic method for correctly assigning labels to regions of images.).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Lennon for the benefit of using a probabilistic method, which results in each assigned label for a region having an associated probability or likelihood of the label being correctly assigned (col. 3, lines 23-27).

**In regards to dependent claims 5 and 20**, Stubler in view of LeBrun does not expressly disclose *wherein an optimization criterion for active selection includes one or more criteria selected from the group consisting of: information measures and confidence*.

However Lennon teaches *wherein an optimization criterion for active selection includes one or more criteria selected from the group consisting of: information measures and confidence* (Abstract; col. 7, lines 41-45; Lennon teaches a probability value expressing the confidence level of the label being correctly assigned.).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Lennon for the benefit of using a probabilistic method, which results in each assigned label for a region having an associated probability or likelihood of the label being correctly assigned (col. 3, lines 23-27).

**Note**

8. It is noted that any citations to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the reference should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. See MPEP 2123.



9. **Claims 7, 8, 11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stubler in view of LeBrun further in view of Lipson et al. (Patent No.: 5,963,670; Filed: Feb. 12, 1996) (hereinafter "Lipson").**

**In regards to dependent claim 7,** Stubler in view of LeBrun does not expressly disclose *the method of claim 1, wherein the input annotations are created by a user with reference to a vocabulary.*

However Lipson teaches *the method of claim 1, wherein the input annotations are created by a user with reference to a vocabulary* (col. 9, lines 23-35; Lipson teaches a rich vocabulary to differentiate between many classes of images.).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Lipson for the benefit of providing a class model, which can be used to detect images of that class in a database (col. 2, lines 39-41).

**In regards to dependent claim 8,** Stubler in view of LeBrun does not expressly disclose *the method of claim 7, wherein the vocabulary contains one or more items selected from the group consisting of: terms, concepts, labels, and annotations.*

However Lipson teaches *the method of claim 7, wherein the vocabulary contains one or more items selected from the group consisting of: terms, concepts, labels, and annotations* (col. 9, lines 23-42; Lipson teaches a rich vocabulary to differentiate

between many classes of images. It has been established and is commonly known that vocabularies typically contain *terms and concepts*).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Lipson for the benefit of providing a class model, which can be used to detect images of that class in a database (col. 2, lines 39-41).

**In regards to dependent claim 11**, Stubler in view of LeBrun does not expressly disclose *the method of claim 7, wherein the vocabulary is adaptively or dynamically organized and/or limited by the system or the user*.

However Lipson teaches *the method of claim 7, wherein the vocabulary is adaptively or dynamically organized and/or limited by the system or the user* (col. 9, lines 23-35.).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Lipson for the benefit of providing a class model, which can be used to detect images of that class in a database (col. 2, lines 39-41).

**In regards to dependent claim 13**, Stubler discloses *the method of claim 1, wherein the determination of the propagation of annotations is made deterministically or probabilistically* (col. 4 line 64 – col. 5 line 19)

Stubler in view of LeBrun does not expressly disclose *the use of models for each annotation or for joint annotations*.

However Lipson teaches *the use of models for each annotation or for joint annotations* (col. 2, lines 56-59; Lipson teaches an image model for classifying or detecting images.).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Lipson for the benefit of providing a class model, which can be used to detect images of that class in a database (col. 2, lines 39-41).

**In regards to dependent claim 14**, Stubler in view of LeBrun does not expressly disclose *the method of claim 13, wherein the models are created or learned automatically or semi-automatically and/or are updated adaptively from interaction with the user*.

However Lipson teaches *wherein the models are created or learned automatically or semi-automatically and/or are updated adaptively from interaction with the user* (col. 9, line 37-col. 10, line 22; Lipson teaches a method for generating a class model.).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Lipson for the benefit of providing a class model, which can be used to detect images of that class in a database (col. 2, lines 39-41).

**In regards to dependent claim 15**, Stubler in view of LeBrun does not expressly disclose *the method of claim 13, wherein the models are based on nearest neighbor voting or variants, parametric or statistical models, expert systems, rule-based systems, or hybrid techniques.*

However Lipson teaches *wherein the models are based on nearest neighbor voting or variants, parametric or statistical models, expert systems, rule-based systems, or hybrid techniques* (col. 2, lines 56-59; col. 13, line 2-col. 14, line 18).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Lipson for the benefit of providing a class model, which can be used to detect images of that class in a database (col. 2, lines 39-41).

**Note**

10. It is noted that any citations to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the reference should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. See MPEP 2123.

11. **Claims 23, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stubler and LeBrun in view of Neal et al. (Patent No.: US 6,697,799 B1; Effective Filing Date: Sep. 10, 1999) (hereinafter "Neal").**

In regards to dependent claims 23, 25 and 27, Stubler in view of LeBrun does not expressly disclose *wherein the at least one criterion includes an ambiguity level of the selected examples*.

However Neal teaches *wherein the at least one criterion includes an ambiguity level of the selected examples* (col. 11, lines 1-47; Neal teaches a classification confidence score which determines the level of confidence in which a category is likely to be correct during classification. If the item has a high confidence, then it can be classified directly. If the confidence level is low, then the results can be sent to the user interface for review and selection by the operator. Using the broadest reasonable interpretation, the Examiner has determined that the "confidence level" as taught by Neal is analogous with the "ambiguity level" of the current invention.).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Neal for the benefit of comparing confidence scores of items for all selected classifications and classifying the items based on confidence score comparison (col. 2, lines 36-42).

**Note**

12. It is noted that any citations to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the reference should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art.

See MPEP 2123.

**13. Claims 24, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stubler and LeBrun in view of Neal, further in view of Toyama (Patent No.: US 6,816,847 B1; Filing Date: Sep. 23, 1999).**

**In regards to dependent claims 24, 26 and 28, Stubler in view of LeBrun does not expressly disclose *wherein the at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space.***

Neal teaches *wherein the at least one criterion includes an ambiguity level of the selected examples* (col. 11, lines 1-47; Neal teaches a classification confidence score which determines the level of confidence in which a category is likely to be correct during classification. If the item has a high confidence, then it can be classified directly. If the confidence level is low the results can be sent to the user interface for review and selection by the operator. Using the broadest reasonable interpretation, the Examiner has determined that the "confidence level" as taught by Neal is analogous with the "ambiguity level" of the current invention.).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Neal for the benefit of

comparing confidence scores of items for all selected classifications and classifying the items based on confidence score comparison (col. 2, lines 36-42).

Toyama teaches *a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space* (col. 5, line 47- col. 6, line 50; Toyama teaches a SVM classifier by identifying a hyperplane that separates a set of positive and negatives examples with a maximum margin. Toyama further teaches, the quality of the learned classifiers for aesthetic image judgment can be enhanced by inputting to the feature selection procedures that are useful for distinguishing different aesthetic among images. Using the broadest interpretation, the Examiner concludes at the time of the invention, one of ordinary skill of the art could modify Neal's teaching with Toyama teaching of enhancing the learned qualifier in such a way that wherein the at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space.).

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler, LeBrun and Neal with Toyama for the benefit of generating a set of images for input into a SVM classifier (col. 1, lines 57-64).

**Note**

14. It is noted that any citations to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the reference should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art.

See MPEP 2123.

### ***Response to Arguments***

15. Applicant's arguments filed 02 Oct. 2007 have been fully considered but they are not persuasive.

#### **Claim 1**

*Applicant argues the Office Action does not provide any prior art reference disclosing at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected, as is required by claim 1. An image which cannot be identified is not equivalent to an image which is ambiguous. For example, an image may be unambiguous, but a system may nonetheless fail to automatically identify the image because it was not programmed to identify that particular image. Thus, whether an image was automatically identified cannot be equivalent to a criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected. Therefore, routing images which cannot be automatically identified to a human being cannot be equivalent to actively selecting examples of multimedia content to be annotated by a user, wherein*



*the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected (Remarks, pages 7-8).*

The Examiner disagrees.

Applicant discloses *at least one criterion for achieving a maximal disambiguation result as "the user annotating examples which the system selects as most ambiguous (0028)".* The American Heritage College dictionary defines *ambiguous* as "open to one or more interpretation; doubtful or uncertain". LeBrun teaches a database of graphic document images which are automatically identified (*annotated*) by an image character reader. Images not automatically identified (*annotated*) by the image character reader are queued for manual identification/classification by human operators looking sequentially at a screen or queue of images and keying in the identification (col. 18, lines 16-20). The current invention discloses the user annotating examples which the system cannot identify, thus determining the examples as "most ambiguous. LeBrun teaches the user annotating examples which the system cannot identify. The Examiner concludes it is obvious that the current invention, as well as LeBrun, identify examples/images in which there is a level of *doubtfulness or uncertainty*, determining a measure of ambiguity. Applicant's argues that an *image which cannot be identified, is not equivalent to an image which is ambiguous. For example, an image may be unambiguous, but a system may nonetheless fail to automatically identify the image because it was not programmed to identify that particular image.* The Examiner

disagrees with Applicant rationale in that, using Applicant's example, if a system is not programmed to identify a particular image, then once the system is presented with that particular image, the system would have no way of interpreting/identifying what is being presented to it, thus the image would indeed be ambiguous based on what the system is program to identify. Based on Applicant established criterion for achieving a maximal disambiguation along with The American Heritage College dictionary definition of the term ambiguous, the Examiner conclude LeBrun's annotation of the routed images, which cannot be automatically identified by the system, to a human being for annotation/labeling is indeed *disclosing actively selecting examples of multimedia content to be annotated by a user, wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected, as is required by claim 1.*

Applicant further argues *Stubler and LeBrun are directed to such radically different purposes and it is apparent that the only suggestion for combining Stubler and LeBrun in the manner advanced by the Examiner stems from hindsight knowledge impermissibly derived from the Applicant's disclosure* (Remarks, page 12).

The Examiner disagrees.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Furthermore, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Stubler and LeBrun are analogous art with the current invention in that the prior art, disclose identifying and labeling captured images/examples as does the current invention, thus establishing a motivation to consider combining or modifying the teaching of the prior art to produce the claimed invention.

#### **Claims 2 and 5-15**

Claims 2 and 5-14 are dependent on and further limit claim 1, and therefore remains rejected based on their dependency to claim 1.

#### **Claim 15**

Applicant argues that *claim 15 does not recite the subject matter alleged by the Examiner. For at least this reason, and the reasons given for claim 1, claim 15 is believed allowable* (Remarks, p. 13).

The Examiner disagrees.

Even though the Examiner inadvertently recited the incorrect subject matter for this claim, the Examiner correctly cited the location within the prior art which teach/suggest the correct subject matter. Lipson teaches a subgroup of images, in which a relative spatial relationship between image regions can be defined (col. 2, lines 56-59; col. 13, line 2-col. 14, line 18). Lipson also teaches the models could be encoded to represent positional information, in which one object is a predetermined distance away from another that can be applied to new images (col. 16, lines 11-15). Lipson also teach information to specify the relative relationship within an image or class of images may be supplied from a user who has studied one or more images or who has personal knowledge of relevant relative relationships for a given class of images (col. 8, lines 53-60). Using the broadest reasonable interpretation, the Examiners conclude that Lipson teaches/suggests a model based on the nearest neighbor voting and expert systems. The Examiner thanks the Applicant for pointing out this typographical error.

#### **Claim 16**

Claim 16 is rejected under the same rationale as claim 1, and therefore remains rejected based on the same rationale as claim 1.

#### **Claims 17 and 20-21**

Claims 17 and 20-21 are dependent on and further limit claim 16. Claims 2 and 5-14 are dependent on and further limit claim 1, and therefore remains rejected based on their dependency to claim 16.

**Claim 22**

Claim 22 is rejected under the same rationale as claim 1, and therefore remains rejected based on the same rationale as claim 1.

**Claim 23**

Claims 23 is dependent on and further limit claim 1, and therefore remains rejected based on their dependency to claim 1.

**Claim 24**

*Applicant argues that Toyama fails to teach or suggest that the aesthetic score is calculated based on inverse proportionality. Toyama fails to teach or suggest that the aesthetic score is calculated based on inverse proportionality. The Examiner has not explained, and it is not apparent, why the aesthetic score disclosed by Toyama is inherently inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space.*

*Applicant further argues it would not be obvious to amend the classification score disclosed by Neal with the Support Vector Machine (SVM) classifier disclosed by Toyama. In this light, it is apparent that the only suggestion for combining Stubler,*

*LeBrun, Neal and Toyama in the manner advanced by the Examiner stems from hindsight knowledge impermissibly derived from the Applicant's disclosure.*

The Examiner disagrees;

First of all, the Examiner made no mention of *the aesthetic score disclosed by Toyama is **inherently** inversely proportional to a distance of a new feature*. The Examiner rejection shows obviousness as to why one of ordinary skill in the art would combine the cited prior art.

Further, in response to applicant's argument, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The current invention discloses the use of a SVM (Support Vector Machine) classifier for classifying examples in which the confidence in classification is taken to be inversely proportional to the distance of the new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space (0072). Toyama also discloses a SVM classifier for determining the aesthetic score (*confidence level*) for the image (col. 7, lines 7-19). Thus the Examiner concludes the SVM as disclosed by Toyama would be capable of performing the intended use as described in the claimed invention, then it meets the claim.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

**Claim 25**

Claim 25 is dependent on and further limit claim 16, and therefore remains rejected based on their dependency to claim 16.

**Claims 26 and 28**

Claims 26 and 28 are rejected under the same rationale as claim 24, therefore Claims 26 and 28 remains rejected based on the same rationale as claim 24.

**Claim 27**

Claim 27 is dependent on and further limit claim 22, and therefore remains rejected based on their dependency to claim 22.

***Conclusion***

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James J. Debrow whose telephone number is 571-272-5768. The examiner can normally be reached on 8:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached on 571-272-4137. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Application/Control Number:  
10/056,546  
Art Unit: 2176

Page 24

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAMES DEBROW  
EXAMINER  
ART UNIT 2176

*William S. Bashore*  
**WILLIAM BASHORE**  
**PRIMARY EXAMINER**